



2017 DMS SYMPOSIUM SCHEDULE

WHERE

HCK 320,
Hitchcock Hall,
UW campus

DATE & TIME

Sep 11th 2017
9am – 5pm

WELCOME (9 AM)

OLIVIA KOSTERLITZ • KERR LAB
ELISA WONG • DUNHAM & FOWLER LAB

SELECTION ASSAYS (9.05 AM)

CHAIR: PETER CONLIN

OLIVIA KOSTERLITZ • KERR LAB • 10 MIN

“Identifying evolutionary trade-offs of beta-lactamase in *Escherichia coli*”

CLARA AMOROSI • DUNHAM LAB • 10 MIN

“Developing a high-throughput cytochrome p450 activity assay using yeast”

BRYAN ANDREWS • FIELDS LAB • 10 MIN

“Scanning a Phage Tail Fiber to Investigate Adaptation to a Changing Host”

MELISSA CHIASSON • FOWLER LAB • 10 MIN

“Characterizing structure and function of VKOR, a critical pharmacogene”

CO-ORGANIZERS: ELISA WONG AND OLIVIA KOSTERLITZ



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NICK HASLE • FOWLER LAB • 10 MIN
"Using microscopy as a means of selection for DMS"

~ COFFEE BREAK ~

SEQUENCING TECHNOLOGY (10.15 AM)
CHAIR: JOSH CUPERUS

JASON STEPHANY • FOWLER LAB • 20 MIN
Title: "Illumina Sequencing Platform for Sub-Assembly and Barcoded Selections"

JASON UNDERWOOD • EICHLER LAB • 20 MIN
Title: ""

DMS RESEARCH FINDINGS I (11.00 AM)
CHAIR: LEA STARITA

PETER CONLIN • KERR LAB • 20 MIN
Title: ""

CO-ORGANIZERS: ELISA WONG AND OLIVIA KOSTERLITZ



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STEPHANIE ZIMMERMAN • FIELDS LAB • 20 MIN

Title: "Deep mutational scanning of multiple proteins in the yeast mating pathway"

GABE ROCKLIN • BAKER LAB • 20 MIN

Title: "Global analysis of protein folding using massively parallel design, synthesis, and testing"

MIKE DORRITY • QUEISCTH LAB • 20MIN

Title: "Identifying mechanisms of intramolecular temperature-sensing through deep mutational scanning of the oligomerization domain of Hsf1"

~ LUNCH BREAK (PIZZA; 12 PM - 1PM) ~

DMS ANALYSIS & DETECTION TOOLS (1 PM)

CHAIR: GABRIEL ROCKLIN

HANNAH GELMAN • FOWLER LAB • 20 MIN

Title: "Drawing physical insights from high throughput mutational scanning experiments"

VANESSA GRAY • FOWLER LAB • 20 MIN

Title: "Quantitative missense variant effect prediction using large-scale

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mutagenesis data"

STEVEN LEE • NICKERSON LAB • 20 MIN

Title: "Stargazer: a software tool for calling star alleles from next-generation sequencing data using CYP2D6 as a model"

**COFFEE BREAK
OPEN DISCUSSION (20 MIN)**

CHAIR: HANNAH GELMAN

DMS RESEARCH FINDINGS II (2.30 PM)

CHAIR: ELISA WONG

JOSH CUPERUS 5 • FIELDS LAB • 20 MIN

Title: "Deep mutational scanning of casava EPSP synthase for increased enzymatic activity and glyphosate resistance"

KENNY MATREYEK • FOWLER LAB • 20 MIN

Title: "Experimental identification of low-abundance loss-of-function variants of clinically important genes"

GABE BUTTERFIELD • BAKER LAB • 20 MIN

Title:



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BEN JESTER • FIELDS LAB • 20 MIN

Title: "Using selections and deep sequencing to improve the response and selectivity of engineered biosensors"

LEA STARITA • SHENDURE LAB • 20 MIN

Title: "Functional assays for determining the pathogenic potential of *BRCA1* missense variants"

GLENN FOIGHT • BAKER & MALY LAB • 20 MIN

Title: "Engineering of new chemically induced dimerizers using design and protein interface libraries"

CLOSING SESSION
